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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,233	01/06/2004	Chul-Woo Kim	F-8105	4770

28107 7590 02/28/2005
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EXAMINER

KITOV, ZEEV

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/752,233	Applicant(s) KIM, CHUL-WOO	
	Examiner Zeev Kitov	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification is objected to due to following reasons.

1. The word "lighting" should be changed to "lightning".
2. Claim 1 should be retyped to remove grammatical errors such as "the causes of the leakage current is eliminated".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 6,577,478) in view of Ahuja (US 5,440,441). Kim et al. disclose following elements of Claim 1 including a zero sequence current transformer (element 710 in Fig. 7) detecting abnormal current flow generated by ground faults or leakage currents; an abnormal current detector comparing the value of the abnormal current flows (col. 8, lines 1 – 27) detected by the zero sequence current transformer, with the standard set-point value (reference voltage input +26V); a cut-off/reset controller (block 530 in Fig. 9) operating a relay (element 108 in Fig. 1) in the case of the ground faults or the leakage currents, or resetting the relay in the case of elimination of the causes of the leakage currents (col. 8, line 53 – col. 9, line3); the relay cutting off or resetting an electric path

by the order of the cut-off/reset controller. It further implicitly discloses an auto reset unit supplying a pulse to check an input signal after the cut-off/reset controller is operated to cut off the abnormal current flow (OLCI SET and OLCI RESET signals supplied by such unit). However, it does not disclose a minute current generator and auto-reset unit.

Ahuja discloses a minute current generator (element 26 in Fig. 1) supplying minute currents to check the system status, until the cause of the fault is eliminated and an auto-reset unit (element 37) supplying a pulse periodically to check an input signal after the cut-off/reset controller is operated to cut off the fault current flows. Both references have the same problem solving area, namely protection of the electrical equipment against overcurrent fault (col. 5, lines 9 – 40). As a matter of fact, Kim et al. reference implicitly disclosed checking the fault status of the system (through use of block 780 in Fig. 7) but it did not disclose these checks being performed periodically. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Kim et al. solution by adding the minute current generator according to Ahuja periodically checking the fault status of the system, because such an auto-reset circuit periodically testing a fault status of the system makes minimizes a fault time of the system.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach

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examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Z.K.

02/21/2005



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
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